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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,802	01/13/2004	Cynthia C. Bamdad	M1015.70070US01	1525
35736 JHK LAW P.O. BOX 1078 LA CANADA, CA 91012-1078	7590 11/18/2008		EXAMINER FORMAN, BETTY J	
			ART UNIT 1634	PAPER NUMBER
			MAIL DATE 11/18/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/756,802

Applicant(s)

BAMDAD ET AL.

Examiner

BJ Forman

Art Unit

1634

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 119-122, 124, 125, 127-129 and 131-134 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 119-122, 124, 125, 127-129 and 131-134 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-848)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

FINAL ACTION

Status of the Claims

1. This action is in response to papers filed 4 September 2008 in which claims 1, 124-125, 131-132 were amended and Claim 123 was canceled. The amendments have been thoroughly reviewed and entered.

The previous objection and rejections in the Office Action dated 7 March 2008, not reiterated below, are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed and are discussed below as they apply to the instant grounds for rejection. New grounds for rejection, necessitated by the amendments, are discussed.

Claims 1, 119-122, 124-125, 127-129, 131-134 are under prosecution.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 119-122, 124-125, 127-129, 131-134 are rejected under 35

U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent Claims 1 and 132 (from which all other claims depend) have

been amended to define the oligonucleotide identifier as "intact". Applicant has not pointed to any support for the newly defined identifier and a review of the specification has revealed no such support. Therefore, the specification does not reasonably convey to one skilled in the art that the inventors, at the time the application was filed, contemplated the newly claimed invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 119-120, 125, 127-129 and 131-132 are rejected under 35 U.S.C. 102(b) as being anticipated by Dower et al (U.S. Patent No. 5,639,603, issued 17 June 1997).

Regarding Claim 1, Dower et al discloses a method comprising providing a target molecule and oligo tag each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line 18). Dower et al further teach the method wherein during the allowing step, the oligo identifier is immobilized

(e.g. primer or distinct tag, Column 19, lines 60-63) and wherein determining includes separating the identifier (Column 18, line 54-Column 20, line 25).

Regarding Claims 119-120, Dower et al disclose the method wherein the surface comprises a gold colloid (Column 11, lines 35-38).

Regarding Claim 125, Dower et al disclose the method wherein the identifier is identified by fluorescent sequencing (Column 21, lines 37-50).

Regarding Claim 127, Dower et al disclose the method wherein the first surface is colloidal gold (Column 11, lines 35-38).

Regarding Claim 128, Dower et al disclose the method wherein the oligo identifier is identified by a complementary oligo having a first portion complementary to the identifier i.e. regions of the oligo are complementary to primer-binding sites (Column 18, line 54-Column 19, line 35).

Regarding Claim 129, Dower et al disclose the method comprising allowing a first biological species, immobilized on a first surface to interact with a second biological species, immobilized on a second surface-and determining the interaction by identifying an interaction hybridization identifier that is complementary to a combination of a first oligonucleotide identifier immobilized on the first surface of the a second oligonucleotide identifier immobilized on the second surface (Claims 1-8, Column 3, line 66-Column 4, line 18 and Column 11, lines 35-38 and 57-60).

Regarding Claim 131, Dower et al disclose the method wherein non-hybridized oligos are separated prior to detection (Example 1, Column 47, lines 8-29).

Regarding Claim 132, Dower et al discloses a method comprising providing a target molecule and oligo tag each immobilized on a first surface, providing a target on a second surface (Claim 7) allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line 18) wherein the first surface is a nanoparticles (Column 11, lines 35-38 and 57-60).

Regarding Claim 133-134, Dower et al discloses the method wherein the oligo identifier is identified by PCR (Column 18, line 54-Column 20, line 25).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 121-122 and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dower et al (U.S. Patent No. 5,639,603, issued 17 June 1997) in view of Bamdad (WO 98/31839, published 23 July 1998).

Regarding Claims 121-122 and 124, Dower et al discloses a method comprising providing a biological molecule and oligo tag each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line

18). Dower et al teach the method wherein the surface is colloidal gold (Column 11, lines 35-38) but does not teach the particle has a self-assembled monolayer wherein the oligo and/or are immobilized via a metal binding tag-metal-chelate linkage. However, colloidal gold having the SAM layer and linkage was well known in the art at the time the claimed invention was made as taught by Bamdad.

Bamdad teaches a similar method comprising providing a target molecule and oligo tag, each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (paragraph spanning pages 37-38) wherein the preferred supports are gold and have a self-assembled monolayer whereby the biological molecules are immobilized via a metal binding tag-metal-chelate linkage (pages 6-9). Bamdad teaches the supports provide for the detection of a conformation change in single molecules and is inexpensive, easily scalable and therefore useful for mass screenings (page 64, lines 9-28).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the self-assembled monolayer and metal binding tag-metal-chelate linkage taught by Bamdad to the gold particles of Dower et al. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success and for the benefit of an inexpensive means for mass detection of conformational changes at the single molecule level as taught by Bamdad (page 64, lines 9-28).

Response to Arguments

8. Applicant argues that Dower does not teach the presently claimed method for attaching intact or pre-made oligonucleotide identifiers to a surface to which a peptide, protein or other binding partner is also attached. The argument has been considered but is not found persuasive because the instant claims do not require steps of attaching an intact oligo-identifier. The claims merely define an allowing step during which a chemical or biological compound and intact oligo-identifier are immobilized. The "wherein" statement of Claim 1, line 7 also defines the oligo-identifier as immobilized. In contrast to Applicant's assertion, the claims do not define as step of immobilizing the identifier. However, while not claimed, it is noted that Dower does teach attachment of "separate and distinct oligonucleotide tag is added at each monomer addition step (as opposed to extending an existing tag at each step)" (Column 19, lines 60-62). It is maintained that Dower teaches the invention as claimed.

Conclusion

9. No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner
Art Unit 1634

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